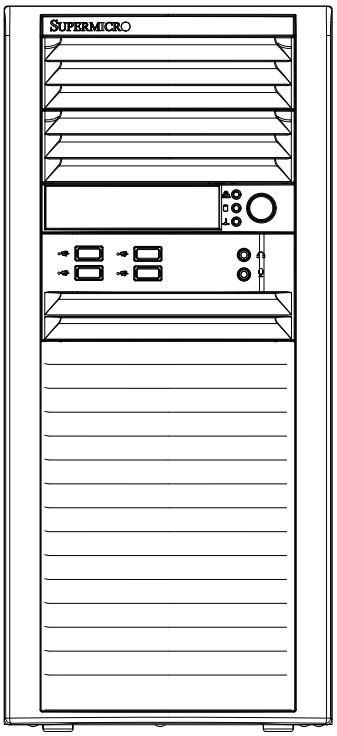
SUPERMICRO®

SuperWorkstation

5037A-iL-MA015



USER'S MANUAL

1.0

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Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SuperWorkstation 5037A-iL-MA015. Installation and maintenance should be performed by experienced technicians only.

Manual Organization

Chapter 1: Workstation Overview

The first chapter provides a list of the main components included with the system and describes the main features.

Chapter 2: Server Setup

This chapter describes the steps necessary to set up the SuperWorkstation 5037A-iL-MA015. A motherboard layout is included and jumper settings are described here.

Chapter 3: Component Installation

Refer here for details on installing components to the system, including CPUs, memory and power supplies.

Appendix A: Software

Appendix B: BIOS Beep Codes

Appendix C: System Specifications

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Chapter 1

Workstation Overview

1-1 Introduction

The 5037A-iL-MA015 is a high-end turnkey workstation. A replacement parts list is shown below. A complete list of safety warnings is provided on the Supermicro web site at http://www.supermicro.com/about/policies/safety_information.cfm

Replacement Parts List		
Qty.	Definition	Part Number
1	Black SC732D4 Desktop Chassis w/ 500W Power Supply	CSE-732D4-500B
1	Black Lite-On 5.25" HH 24x DVD-RW SATA Drive	DVM-LITE-DVDRW24-HBT
1	35-cm SATA Cable (for HDD)	CBL-0061L
1	70-cm SATA Cable (for DVD)	CBL-0179L
1	Sandy Bridge 4C E5-1620 3.6G 10M 130W 2011 Processor	P4D-I52400-310-6MG
1	Motherboard	X9SAE
2	4GB DDR3-1333 2Rx8 Non-ECC Unbuffered DIMMs	MEM-DR340L-HL02-UN13
1	Western Digital 250GB 6Gb/s 7.2k RPM, 3.5" SATA HDD	HDD-T0250-WD2503ABYX
1	2U Active CPU Heat Sink for Intel LGA1155 CPU	SNK-P0046A4
1	NVIDIA® Quadro 600 GPU Card	AOC-GPU-NVO600
1	Standard I/O Shield for C7Q67 with EMI Gasket	MCP-260-00048-0N

System Recovery Instructions

This computer includes a hidden partition which contains a backup of your factory Windows installation. In case of a system failure, you can use this backup to restore your computer to a working state in just a few minutes.

Since this backup resides on the same physical hard-disk as your current Windows installation, a hardware failure of the hard-disk will prevent you from reinstalling Windows. There are two different ways to initiate a system recovery of your system:

- Trigger recovery from OS level (run FullRestore.exe)
- Trigger recovery during system boot up (press F10 key).

Warning: System Recovery will wipe all of your personal data and restore the system to OOBE. You must have your CD-KEY from COA label ready before performing this action. System Recovery is an automated, one-step process. Do not initiate a system recovery unless you are prepared for a complete re-installation back to the factory default installation.

1-2 Motherboard Features

The SuperWorkstation 5037A-iL-MA015 uses the X9SAE, a single processor motherboard built around the Intel® C216 chipset. Below are the main features of the X9SAE.

Processors

The 5037A-iL-MA015 supports a single Intel® Xeon E3-1200 V2 series, Xeon E3-1200 series, Pentium® and Celeron® processor in an LGA 1155 socket. Please refer to the motherboard description pages on our Web site for a complete listing of supported processors (www.supermicro.com).

Memory

The 5037A-iL-MA015 has four DIMM slots that can support up to 32 GB of unbuffered, ECC DDR3 UDIMM memory (1600/1333 MHz).

SATA

A SATA controller is integrated into the chipset to provide a Serial ATA subsystem. The 5037A-iL-MA015 supports two SATA 3.0 and four SATA 2.0 ports.

PCI Expansion Slots

The 5037A-iL-MA015 has the following PCI expansion slots:
One PCI-Express 3.0 x16 slot, two PCI-Express 2.0 x4 slots (one in a x8 slot), two PCI-Express 2.0 x1 slot and one PCI 33MHz slot.

Onboard Controllers/Ports

The back panel I/O ports include two USB 3.0 ports, four USB 2.0 ports on the rear I/O panel Six (6) USB 2.0 headers for front panel access, two (2) USB 3.0 (5Gb/s) headers for front panel access, two (2) USB 3.0 (5Gb/s) ports on the rear I/O panel PS/2 mouse and keyboard ports, two (2) Fast UART 16550 connections on two headers (COM1 & COM2). See Figure 1-2.

1-3 Chassis Features

The 5037A-iL-MA015 is a workstation with Whisper Quiet operation. The following is a general outline of its main features. See Figure 1-3 for a front view of the chassis.

System Power

The 5037A-iL-MA015 features a single 500W Gold Level multi-outlet power supply with PMBus, ideal for use in a workstation environment.

SATA Support

The 5037A-iL-MA015 was designed to support four 3.5" SATA hard drives and four optional 2.5" hard drives.

Front Control Panel

The control panel on the 5037A-iL-MA015 provides you with system monitoring and control. LEDs indicate system power, HDD activity, network activity, overheat conditions and power supply failure. A main power button and a system reset button are also included.

Note: The power supply fail LED indicates the power supply fan has failed.

Cooling System

The 5037A-iL-MA015 has an innovative "Whisper Quiet" cooling design that provides sufficient cooling at very low noise level - ideal for a workplace environment. The chassis includes one 12-cm exhaust fan located at the rear of the chassis, and one 12-cm optional system cooling fan in the middle of the chassis.

The power supply has one internal fan for redundancy; if this fan fails, the power supply must be replaced.

Control Panel

JF1 contains header pins for various front control panel connectors. See Figure 1-1 for the pin locations of the various front control panel buttons and LED indicators.

Figure 1-1. Control Panel Header Pins

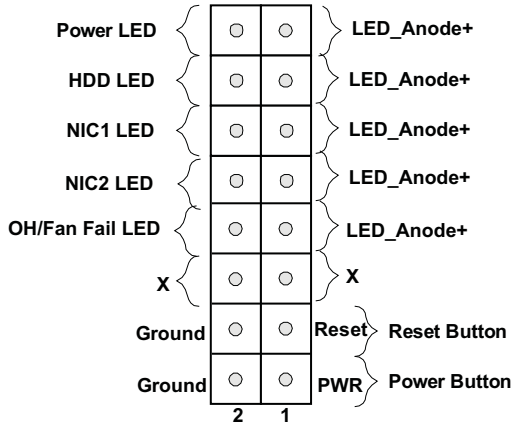
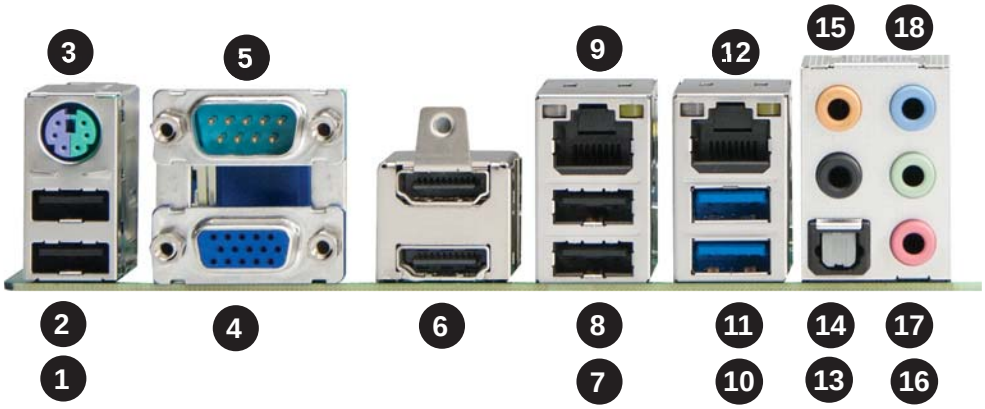
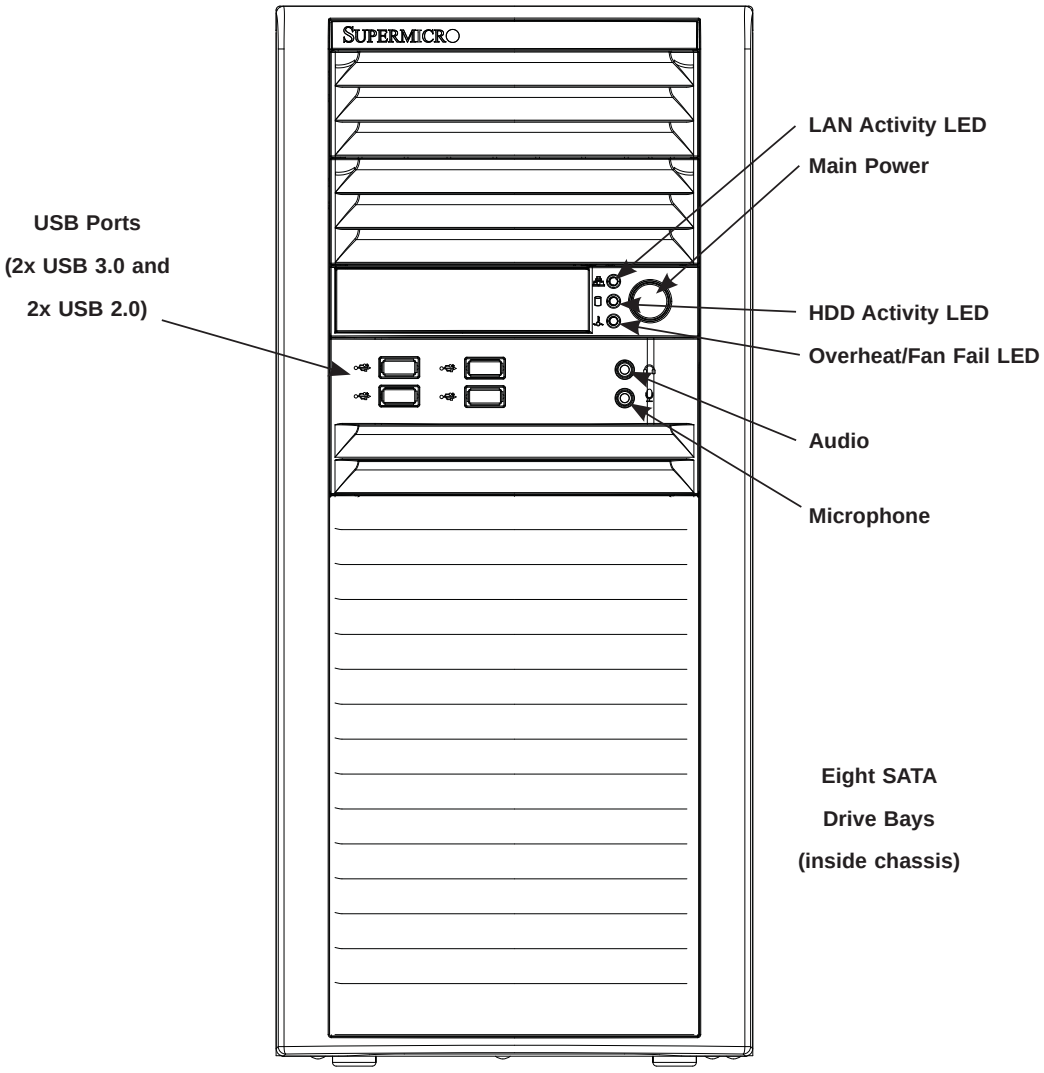


Figure 1-2. I/O Ports



I/O Backpanel		
1. USB 2.0 Port 9	7. USB 2.0 Port 13	13. SPDIF Out
2. USB 2.0 Port 8	8. USB 2.0 Port 10	14. Surround Out
3. Keyboard/Mouse	9 Gb LAN Port 1	15. Center/LFE Out
4. VGA Port	10. USB 3.0 Port 4	16. Mic In
5. Serial Port (COM1)	11. USB 3.0 Port 3	17. Line Out
6. HDMI1/HDMI2 Ports	12. Gb LAN Port 2	18. Line In

Figure 1-3. Front View of Workstation



1-4 Contacting Supermicro

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Technical Support:	
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Chapter 2

Workstation Setup

2-1 Unpacking the System

You should inspect the box the system was shipped in and note if it was damaged in any way. If the system itself shows damage you should file a damage claim with the carrier who delivered it.

Review the warnings and cautions, which may also be found on the Supermicro Web site at http://www.supermicro.com/about/policies/safety_information.cfm.

2-2 Preparing for Setup

Decide on a suitable location for the workstation. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded AC power outlet.

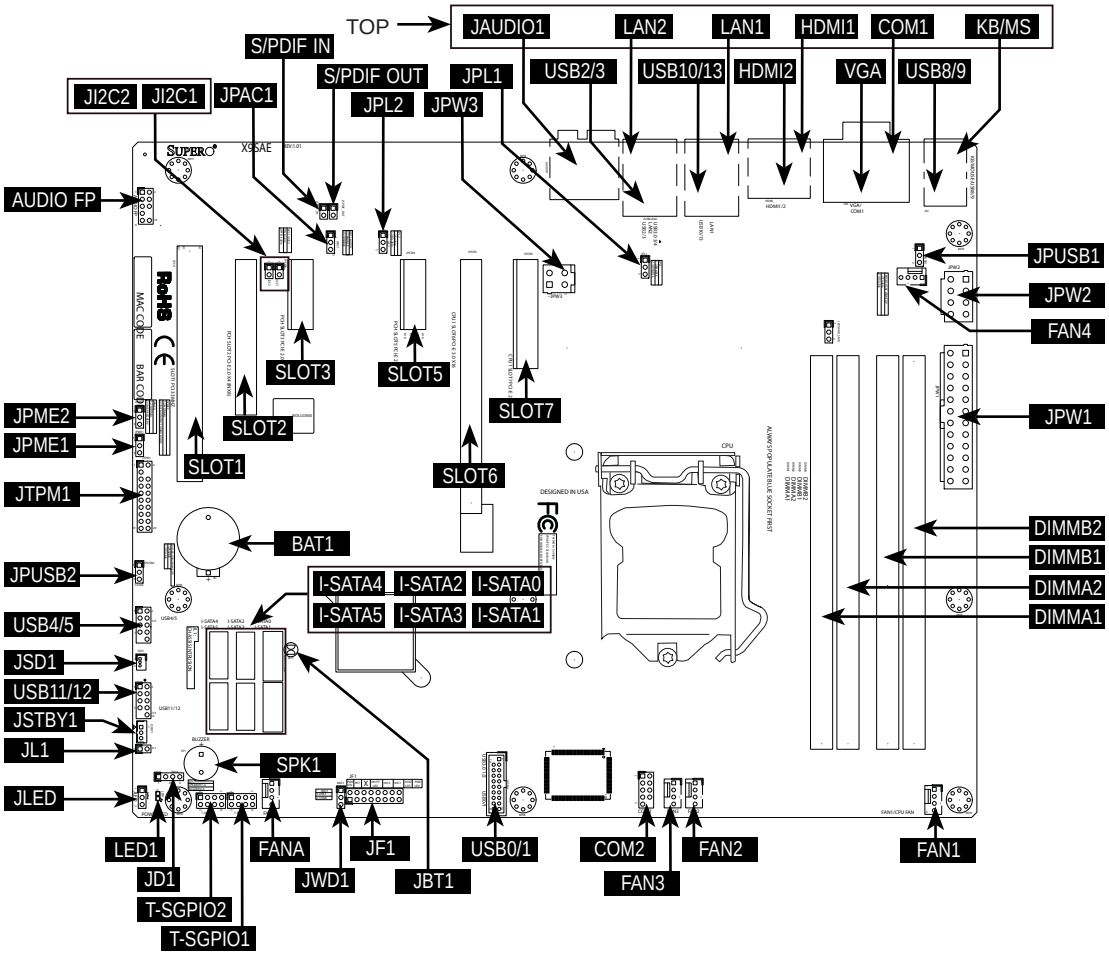
Setting Up

1. Locate the workstation is a suitable area according to the guidelines above.
2. Connect the mouse, keyboard and monitor to the workstation.
3. Connect an Ethernet cable to a LAN port if needed.
4. Connect the power to the power supply and then to a grounded AC outlet.

2-3 Motherboard Layout

This section provides details on the motherboard and jumper settings that may be useful when setting up the system.

Figure 2-1. Layout



Motherboard Jumpers/LEDs/Connectors		
Jumper	**Description**	**Default**
JBT1	CMOS Clear	N/A
JI²C1/JI²C2	SMB to PCI Slots	Off (Disabled)
JPAC1	Audio Enable	Pins 1-2 (Enabled)
JPL1/JPL2	LAN1/LAN2 Disable/Enable	Pins 1-2 (Enabled)
JPME1	Intel ME Recovery Mode	Pins 1-2 (Disabled)
JPME2	Intel ME Manufacturing Mode	Pins 1-2 (Disabled)
JPUSB1/JPUSB2	USB Wake-Up (JPUSB1: Backpanel, JPUSB2: Headers)	Pins 1-2 (Enabled)
JWD1	Watch Dog Timer Reset	Pins 1-2 (Reset)

LED Indicators			
LED	**Description**	**Color/State**	**Status**
LED1	Onboard Standby PWR LED	Solid Green	Power On

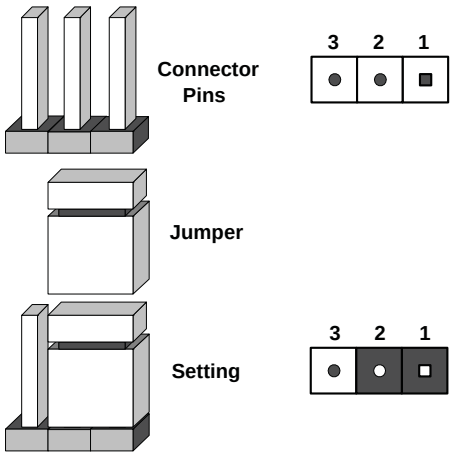
Connector	Description
AUDIO FP	Front Panel Audio Header
JAUDIO	High-Definition Audio Connectors (on the I/O back panel)
BAT1, SPK1	Onboard Battery, Internal Speaker/Buzzer
COM1, COM2	COM1 Port (Back Panel), COM2 Serial Port Header
FAN1~FAN4, FANA	System/CPU Fan Headers (FAN1: CPU Fan, FANA: I/O Cards)
JD1	Speaker/buzzer (Pins 1-2: Buzzer, Pins 1~4: External Speaker)
JF1	Front Panel Control Header
JLED	Power LED Indicator Header
JPW1	24-pin ATX Main Power Connector (Required)
JPW2	+12V 8-pin CPU power Connector (Required)
JPW3	+12V 4-pin Auxilliary power Connector
KB/MS	Keyboard/Mouse Connectors
LAN1/LAN2	Gigabit (RJ45) Ports (LAN1/2)
S/PDIF IN, S/PDIF OUT	SPDIF (Sony/Philips Digital Interface) In/Out Headers
JSD1	SATA DOM (Device_On_Module) Power Connector
SLOT1	PCI 33MHz Slot
SLOT2	PCI-E 2.0 x4 (in x8) Slot
SLOT3, SLOT5	PCI-E 2.0 x1 Slot
SLOT6	PCI-E 3.0 x16 Slot
SLOT7	PCI-E 2.0 x4 Slot
HDMI1, HDMI2	Backpanel HDMI Ports
JL1	Chassis Intrusion Header
JSTBY	Legacy Wake on LAN Header
JTPM1	TPM (Trusted Platform Module) 1.2 Header
I-SATA0 / I-SATA1	Serial ATA (SATA 3.0) Ports 0/1 (6Gb/sec)
I-SATA 2~I-SATA5	Serial ATA (SATA 2.0) Ports 2~5 (3Gb/sec)
USB 8/9, 10/13	Backpanel USB 2.0 8/9, 10/13
USB 2/3	Backpanel USB 2.0 2/3 (USB 3.0 3/4)
USB 0/1	Front Panel Accessible USB 2.0 Headers 0/1 (USB 3.0 1/2)
USB 4/5, 11/12	Front Panel Accessible USB 2.0 Headers 4/5, 11/12
T-SGPIO1, T-SGPIO2	Serial General Purpose I/O Headers (for SATA)
VGA	Backpanel VGA Port

2-4 Jumper Settings

Explanation of Jumpers

To modify the operation of the motherboard, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the motherboard layout pages for jumper locations.

Note: On a two-pin jumper, "Closed" means the jumper is on both pins and "Open" means the jumper is either on only one pin or completely removed.



Clear CMOS (JBT1)

JBT1 is used to clear CMOS. Instead of pins, this "jumper" consists of contact pads to prevent accidental clearing of CMOS. To clear CMOS, use a metal object such as a small screwdriver to touch both pads at the same time to short the connection. Always remove the AC power cord from the system before clearing CMOS.

Note: For an ATX power supply, you must completely shut down the system, remove the AC power cord and then short JBT1 to clear CMOS.

LAN Port Enable/Disable (JPL1/JPL2)

Jumpers JPL1/JPL2 enables or disables LAN Port 1/2 on the motherboard. See the table on the right for jumper settings. The default setting is enabled.

GLAN Enable Jumper Settings	
Pin#	Definition
1-2	Enabled (default)
2-3	Disabled

PCI Slot SMB Enable (I^2C1/I^2C2)

Use Jumpers I^2C1/I^2C2 to enable PCI SMB (System Management Bus) support to improve system management for the PCI slots. See the table on the right for jumper settings.

PCI Slot_SMB Enable Jumper Settings	
Jumper Setting	Definition
Short	Enabled
Open (Default)	Disabled

ME Recovery Mode (JPME1)

Close pins 2-3 of JPME1 to enable ME Recovery Mode. See the table on the right for jumper settings.

JPME1 Jumper Settings	
Both Jumpers	Definition
Pins 1-2	Disabled
Pins 2-3	Enabled

ME Manufacturing Mode (JPME2)

Close pins 2-3 of JPME2 to enable ME Manufacturing Mode. See the table on the right for jumper settings. ote: ME Manufacturing Mode may be enabled without changing this jumper through the BIOS setup. See PCH-FW Configuration -> Firmware Update Configuration in the BIOS Setup. The /ME parameter must be specified when updating with the DOS utility.

JPME2 Jumper Settings

Both Jumpers	Definition
Pins 1-2	Disabled
Pins 2-3	Enabled

Audio Enable (JPAC1)

JPAC1 allows you to enable or disable the onboard audio support. The default position is on pins 1 and 2 to enable onboard audio connections. See the table on the right for jumper settings.

Audio Enable/Disable Jumper Settings

Both Jumpers	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled

Watch Dog Timer Reset (JWD1)

Watch Dog Timer Reset (JWD1) is a system monitor that can reboot the system when a software application hangs. Close Pins 1-2 to reset the system if an application hangs. Close pins 2-3 to generate a non-maskable interrupt signal for the application that hangs. See the table on the right for jumper settings. Watch Dog must also be enabled in the BIOS.

Watch Dog Timer Reset Jumper Settings

Jumper Setting	Definition
Pins 1-2	Reset (default)
Pins 2-3	NMI
Open	Disabled

USB Wake-Up (JPUSB1/JUSB2)

Use the JPUSB jumpers to enable system "wake-up" via a USB device. These jumpers allow you to "wake-up" the system by pressing a key on the USB keyboard or by clicking the USB mouse of your system. The JPUSB jumpers are used together with the USB Wake-Up function in the BIOS. Enable both the jumper and the BIOS setting to activate this function. See the table on the right for jumper settings and jumper connections. Use JUSB1 for back panel USB ports and JUSB2 for front panel USB headers/ports.

USB Wake-Up Jumper Settings

Jumper Setting	Definition
Pins 1-2	Enabled
Pins 2-3	Disabled (Default)

2-5 Onboard Indicators

LAN 1/LAN 2 LEDs

Two LAN ports (LAN 1/LAN 2) are located on the I/O back panel of the motherboard. Each Ethernet LAN port has two LEDs. The yellow LED indicates activity, while the Link LED may be green, amber, or off to indicate the speed of the connections. See the table at right for more information.

LAN 1/LAN 2 Link LEDs (Green/Amber/Off)	
LED Color	Definition
Off	No Connection or 10 Mbps
Green	100 Mbps
Amber	1 Gbps

Onboard Power LED (LED1)

An Onboard Power LED is located at LED1 on the motherboard. When LED1 is on, the AC power cable is connected. Make sure to disconnect the power cable before removing or installing any component. See the motherboard layout for the LED location.

Onboard PWR LED Indicator LED Status	
Status	Definition
Off	System Off
On	System on, or System off and PWR Cable Connected

2-6 SATA Ports

Two 6Gb/s SATA 3.0 ports (I-SATA 0/1) are provided on the motherboard. In addition, four SATA 2.0 (I-SATA 2~5) ports are also located on the board. See the tables below for pin definitions.

SATA Ports	
Port#	Connection Type
I-SATA 0/1,	SATA 3.0
I-SATA 2/3/4/5	SATA 2.0

SATA 2.0/3.0 Port Pin Definitions	
Pin#	Signal
1	Ground
2	SATA_TXP
3	SATA_TXN
4	Ground
5	SATA_RXN
6	SATA_RXP
7	Ground

Chapter 3

Component Installation

Several steps must be taken prior to installing components in the system. Installation or replacement of most components require that power first be removed from the system. Please follow the procedures given for each type of component.

3-1 Removing Power

Use the following procedure to ensure that power has been removed disconnected from the system.

1. Use the operating system to power down the system.
2. After the system has completely shut-down, carefully grasp the head of the power cord and gently pull it out of the back of the power supply.
3. Disconnect the cord from the power strip or wall outlet.

3-2 Accessing the System

The 5037A-iL-MA015 features two removable side covers, allowing easy access to the system interior.

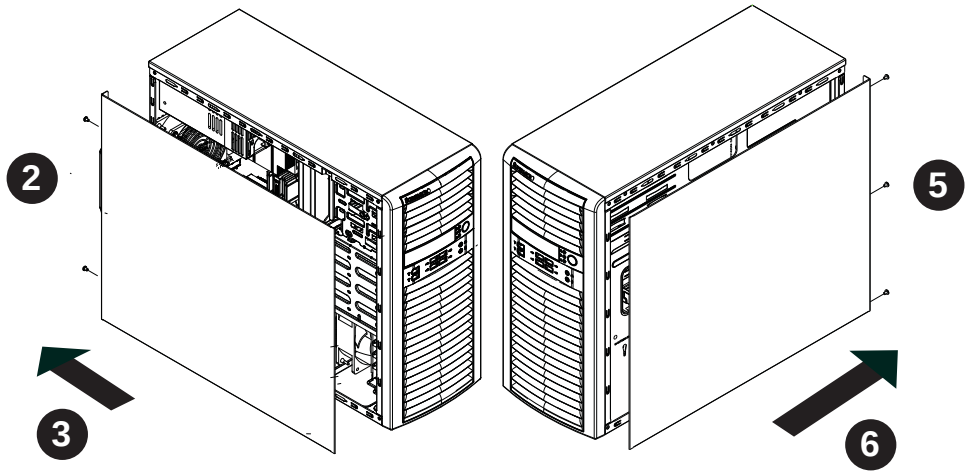
Removing the Side Covers

1. Disconnect the system from any power souce.
2. Remove the two screws securing the left side cover.
3. Slide the left cover toward the rear.
4. Lift the left cover from the system.
5. Remove the three screws securing the right side cover.
6. Slide the right cover toward the rear
7. Lift the right cover from the system.

Caution: Except for short periods of time, do NOT operate the system without the cover in place. The chassis cover must be in place to allow for proper airflow and to prevent overheating.

Additional warnings and cautions can be found on the Supermicro Web site at http://www.supermicro.com/about/policies/safety_information.cfm.

Figure 3-1. Removing the Side Covers



3-3 Adding PCI Add-On Cards

The 5037A-iL-MA015 can accommodate standard size add-on cards populated in all slots.

Installing an Add-on Card

1. Begin by removing power from the system as described on page 3-1.

2. Removethe PCI slot shield for the slot you wish to populate.

3. Fully seat the card into the card slot, pushing down with your thumbs evenly on both sides of the card.

4. Finish by using a screw to secure the top of the card shield to the chassis. The PCI slot shields protect the motherboard and its components from EMI and aid in proper ventilation, so make sure there is always a shield covering each unused slot.

3-4 Installing a CPU and Heat Sink

Caution: When handling the processor package, avoid placing direct pressure on the label area of the fan.

Preparation

1. Begin by removing power from the system as described on page 3-1. Always connect the power cord last and always remove it before adding, removing or changing the CPU. Install the processor into the CPU socket before installing the CPU heat sink.

2. If buying a CPU separately, use an Intel-certified multi-directional heat sink only.

3. If installing a new motherboard, make sure to install the motherboard into the chassis before installing the CPU heat sinks.

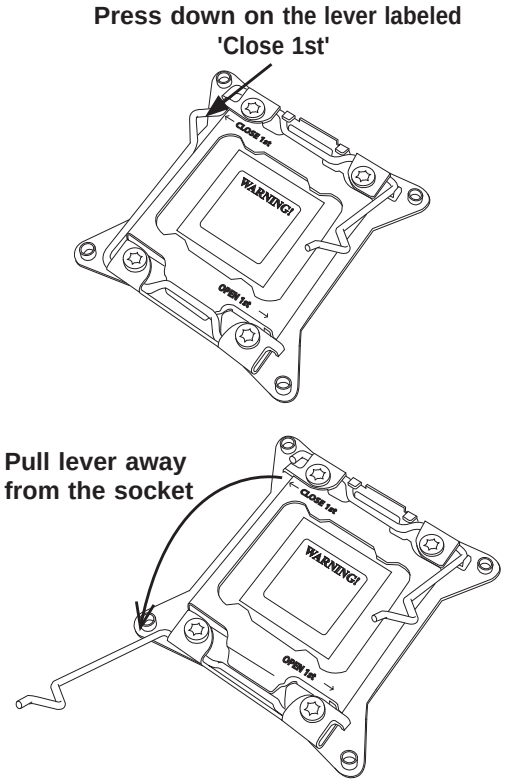
4. When a motherboard has no CPU pre-installed, make sure that the plastic CPU socket cap is in place and none of the socket pins are bent.

5. Refer to the Supermicro Web site for updates on CPU support.

Installing an LGA 2011 Processor

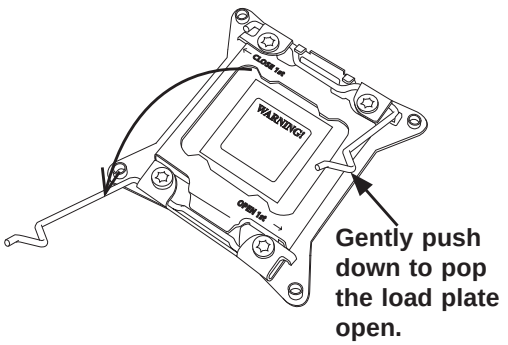
1. There are two levers on the LGA2011 socket. First press and release the load lever labeled 'Open 1st'.

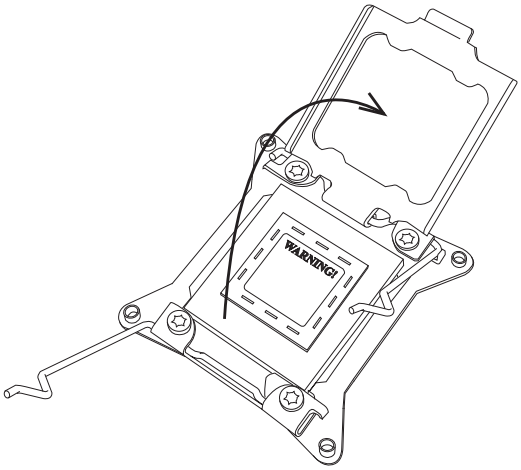
2. Press the second load lever labeled 'Close 1st' to release the load plate from its locked position.



3. With the lever labeled 'Close 1st' fully retracted, gently push down on the 'Open 1st' lever to open the load plate. Lift the load plate to open it completely.

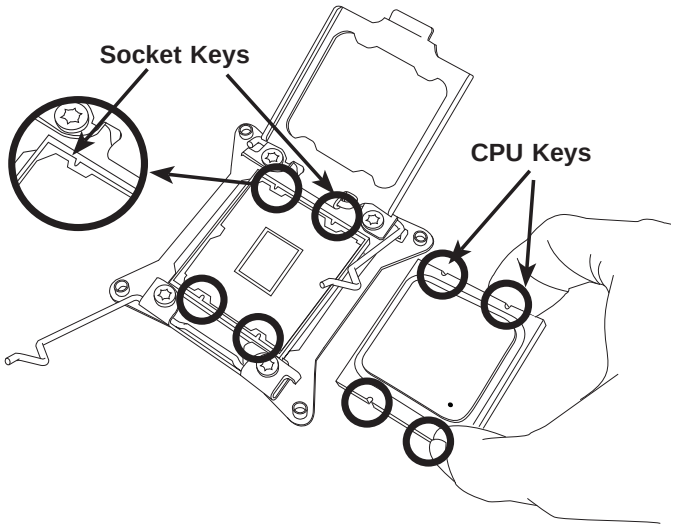
4. Using your thumb and the index finger, remove the 'WARNING' plastic cap from the socket.





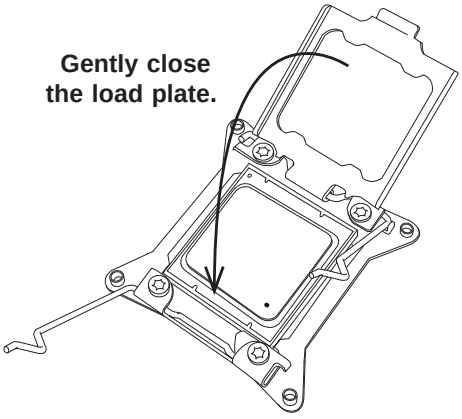
5. Use your thumb and index finger to hold the CPU by its edges. Align the CPU keys, which are semi-circle cutouts, against the socket keys.

6. Once they are aligned, carefully lower the CPU straight down into the socket. (Do not drop the CPU on the socket. Do not move the CPU horizontally or vertically and do not rub the CPU against any pins of the socket, which may damage the CPU or the socket.)

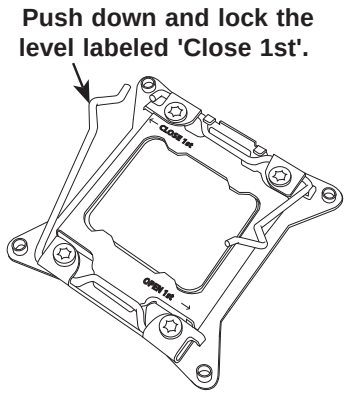


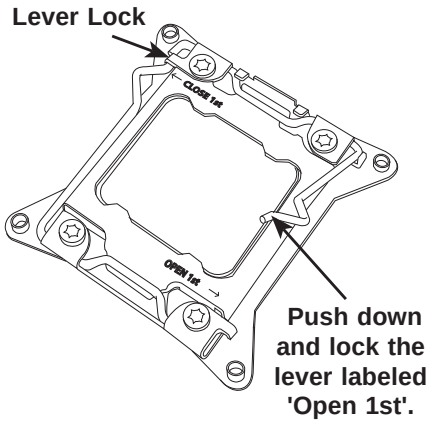
Caution: CPUs only install to the socket in one direction. Make sure that the CPU is properly inserted into the socket before closing the load plate. If it doesn't close properly, do not force it as it may damage your CPU. Instead, open the load plate again and double-check that the CPU is aligned properly.

7. With the CPU in the socket, inspect the four corners of the CPU to make sure that they are flush with the socket.



8. Close the load plate. Lock the lever labeled 'Close 1st', then lock the lever labeled 'Open 1st'. Use your thumb to gently push the load levers down until the lever locks.





Installing a CPU Heat Sink

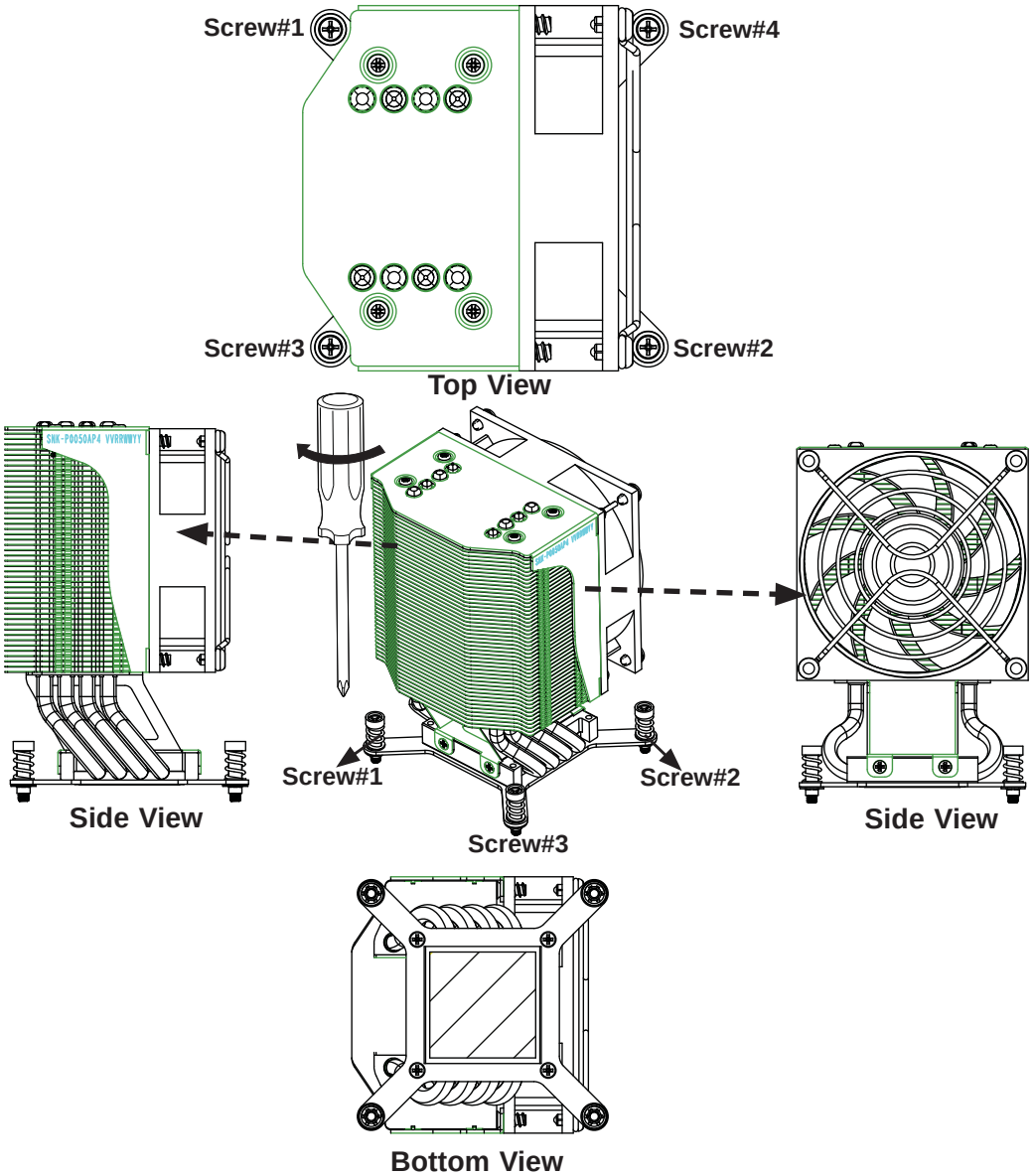
1. Do not apply any thermal grease to the heat sink or the CPU die; the required amount has already been applied.

2. Place the heat sink on top of the CPU so that the four mounting holes are aligned with those on the motherboard and the heat sink bracket underneath.

3. Screw in two diagonal screws (i.e., the #1 and the #2 screws) until just snug. (To avoid possible damage to the CPU do not over-tighten the screws.)

4. Finish the installation by fully tightening all four screws.

Figure 3-2. Heat Sink Installation

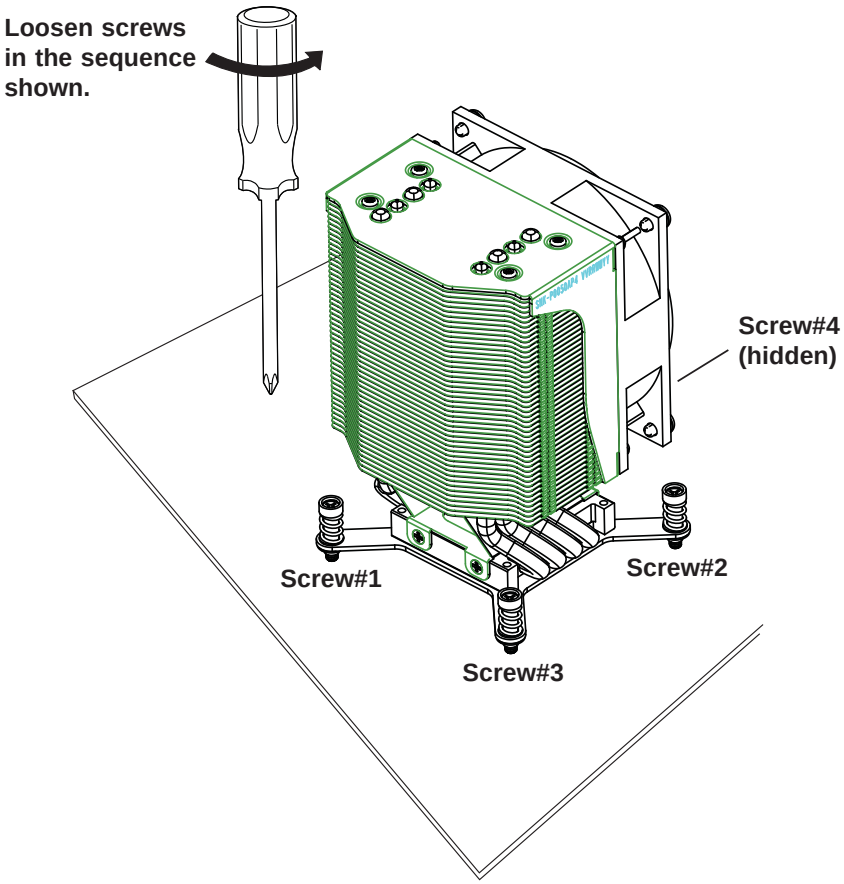


Removing the Heat Sink

Preparation

1. Begin by removing power from the system as described on page 3-1.
2. Remove the power cord from the system before removing the heatsink.
3. Unscrew the heat sink screws from the motherboard in the sequence as shown in the illustration below.
4. Gently wriggle the heat sink to loosen it from the CPU. (Do not use excessive force when wriggling the heat sink!)
5. Once the heat sink is loosened, remove it from the CPU socket.
6. Remove the used thermal grease and clean the surface of the CPU and the heat sink, Reapply the proper amount of thermal grease on the surface before reinstalling the heat sink.

Figure 3-3. Heat Sink Removal



3-5 Installing Memory Modules

Check the Supermicro Web site for recommended memory modules.

Caution: Exercise extreme care when installing or removing DIMM modules to prevent any possible damage.

Preparation

1. Begin by removing power from the system as described on page 3-1.

2. Press down the release tabs on the ends of a memory slot. Insert each DIMM module vertically into its slot. Pay attention to the notch along the bottom of the module to prevent inserting the DIMM module incorrectly.

3. Using both thumbs, gently press down on the DIMM module until it snaps into place in the slot. Repeat for all modules.

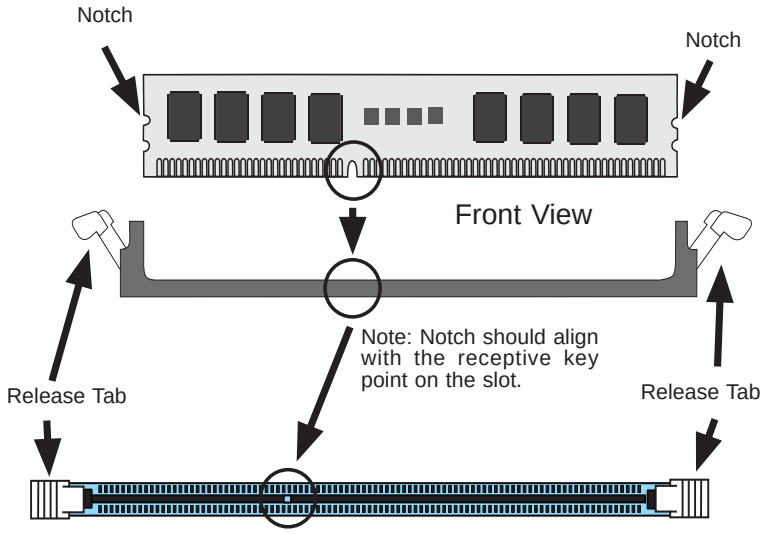
4. Insert the desired number of DIMMs into the memory slots, starting with P1 DIMMA2. For best performance, please use the memory modules of the same type and speed in the same bank. See the DIMM Installation Chart on the following page.

5. Reverse the steps above to remove the DIMMs from the motherboard.

Figure 3-4. DIMM Installation

To Install: Insert module vertically and press down until it snaps into place. Pay attention to the alignment notch at the bottom.

To Remove:
Use your thumbs to gently push the release tabs near both ends of the module. This should release it from the slot.



Memory Support

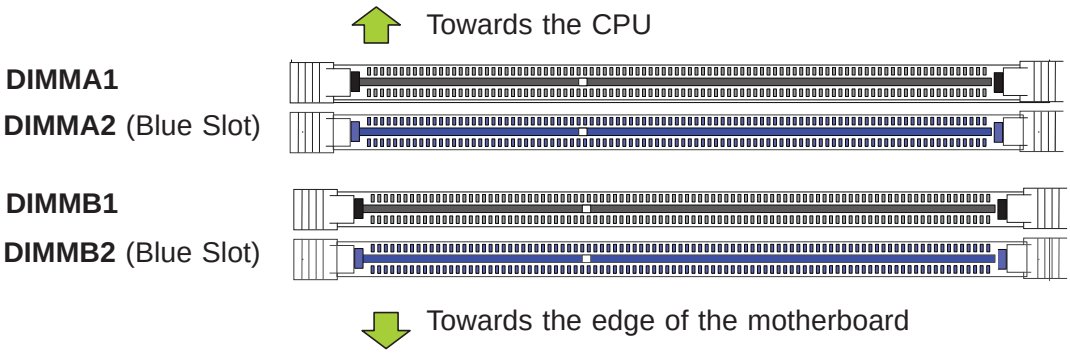
The SuperWorkstation supports up to 32GB of Unbuffered (UDIMM) DDR3 ECC/ Non-ECC 1600/1333 MHz in four memory slots. Populating these DIMM modules with a pair of memory modules of the same type and same size will result in interleaved memory, which will improve memory performance. Please refer to the table below. For the latest memory updates, please refer to the product page on the Supermicro Web site.

Memory Population Guidelines

When installing memory modules, the DIMM slots should be populated in the following order: DIMMA2, DIMMB2, DIMMA1 and DIMMB1.

- Always use DDR3 DIMM modules of the same size, type and speed.
- Mixed DIMM speeds can be installed. However, all DIMMs will run at the speed of the slowest DIMM.
- The motherboard will support one DIMM module or three DIMM modules installed. For best memory performance, install DIMM modules in pairs.

Recommended Population (Balanced)				
DIMMA2 Slot	**DIMMB2 Slot**	**DIMMA1 Slot**	**DIMMB1 Slot**	**Total System Memory**
2GB	2GB			4GB
2GB	2GB	2GB	2GB	8GB
4GB	4GB			8GB
4GB	4GB	4GB	4GB	16GB
8GB	8GB			16GB
8GB	8GB	8GB	8GB	32GB



3-6 System Fans

One 12-cm chassis cooling fan provides air intake while another 12-cm exhaust fan expels hot air from the chassis. Both are low-noise fans that result in "Whisper-Quiet" operation (~28 dB). The fans should be connected to headers on the motherboard (see Chapter 5).

The power supply includes redundant cooling fans. If one fan fails, the remaining fan will ramp up its rpm to provide sufficient cooling. The Power Fail LED will illuminate and an audible alarm will sound, which can be silenced with a button on the power supply. If a power supply fan fails, you should replace the power supply at your earliest convenience.

Preparation

Under normal operation, the chassis fans, the exhaust fan and the power supply fans run continuously. The chassis fans are hot-pluggable and can be replaced without powering down the system.

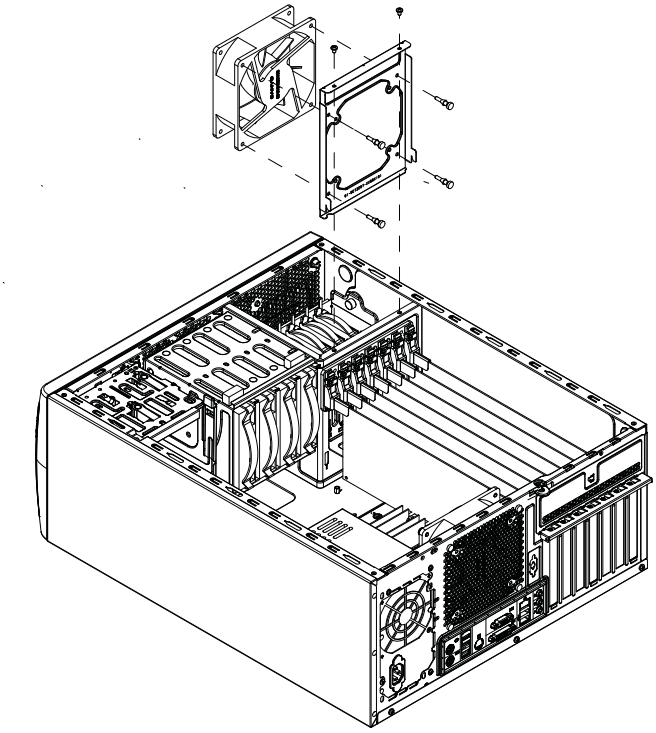
Removing a Fan

1. First locate the failed chassis fan by removing the top/left chassis cover (see Chapter 2 for details). Locate the fan that has stopped working.
2. Disconnect the power cord to the chassis and disconnect the cable to the fan.
3. Remove the two screws securing the fan bracket to the chassis.
4. Remove the four screws securing the fan to the fan bracket.
5. Lift the fan up and out of the chassis.

Installing a New Fan

1. Replace the failed fan with an identical one (available from Supermicro)
2. Secur the fan to the bracket with four screws and secure the bracket to the chassis with two screws.
3. Install it in the same position and orientation as the one you removed.
4. Check that the fan is working then replace the chassis cover.

Figure 5-5. Removing a Chassis Fan



3-7 Hard Drive Installation

A total of eight SATA drives may be housed in the 5037A-iL-MA015. The drive IDs are preconfigured as 0 through 7 in order from bottom to top. Remove the side panel of the chassis to access these drives as described previously in this chapter.

Caution: Regardless of how many SATA drives are installed, all drive carriers must remain in the drive bays to promote proper airflow.

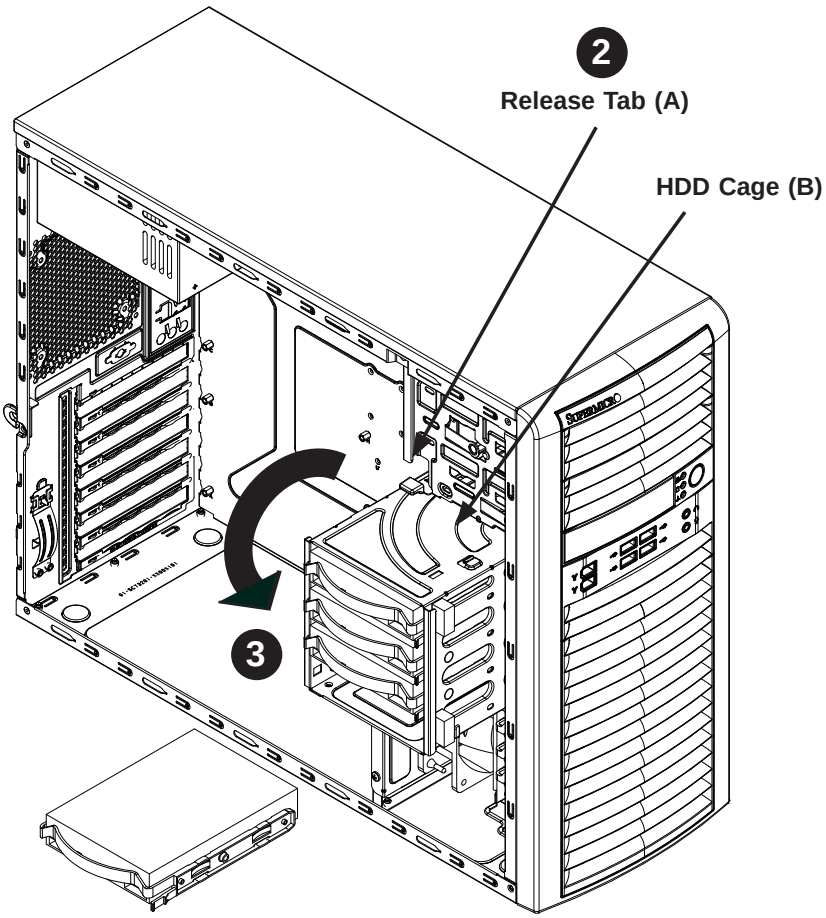
Preparation

Begin by removing power from the system as described on page 3-1.

Rotating the Hard Drive Cage

1. Disconnect the system from any power source.
2. Lift the release tab (A).
3. Rotate the hard hard drive cage (B) outward.

Figure 3-6. Removing the Drive Carrier



Removing a Hard Drive

1. Press the release tab on the side of the hard drive carrier which is to be removed from the hard drive cage.

2. Gently pull the hard drive carrier out of the cage.

3. If a hard drive is already present, remove it by carefully pulling the sides of the hard drive carrier outward.

4. Remove the hard drive from the hard drive carrier.

Figure 3-7. Removing the Hard Drive Carrier from the Hard Drive Cage

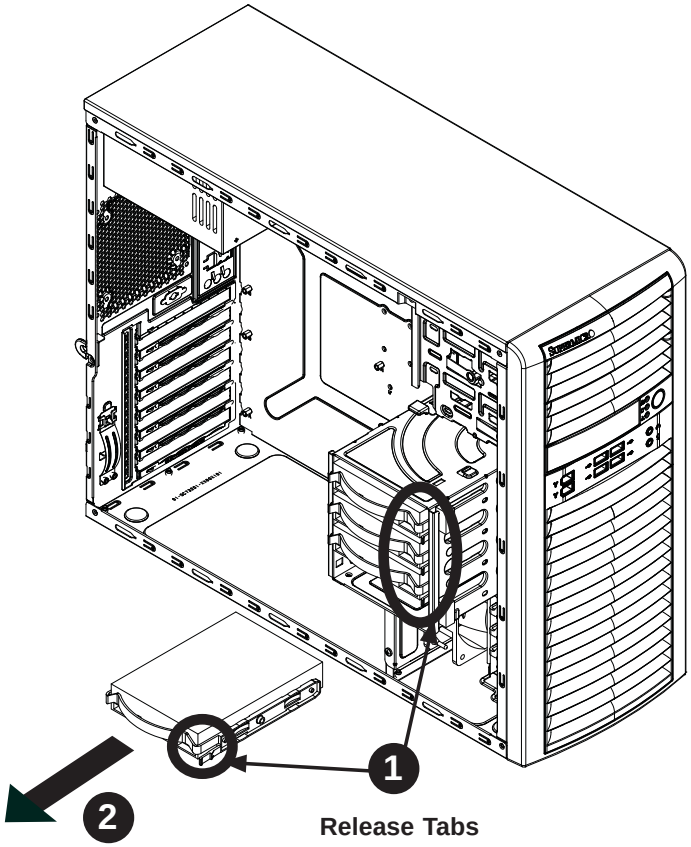


Figure 3-8. Removing a Hard Drive from the Drive Carrier

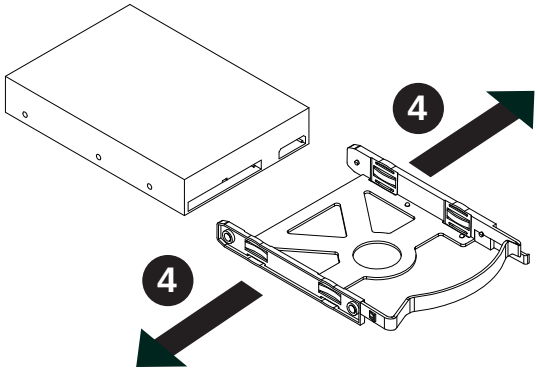
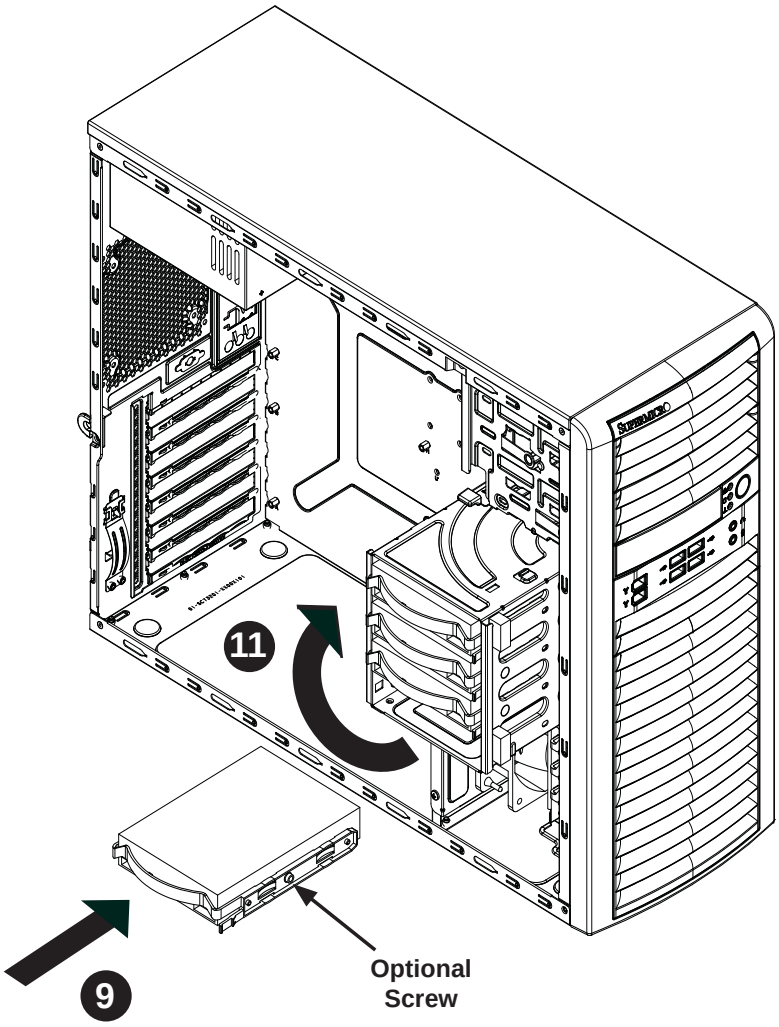


Figure 3-9. Installing a Hard Drive Carrier into the Hard Drive Cage



1. Insert the new hard drive into the hard drive carrier.

2. Insert the hard drive carrier into the hard drive cage, sliding it towards the back of the the hard drive cage until it clicks into a locked position.

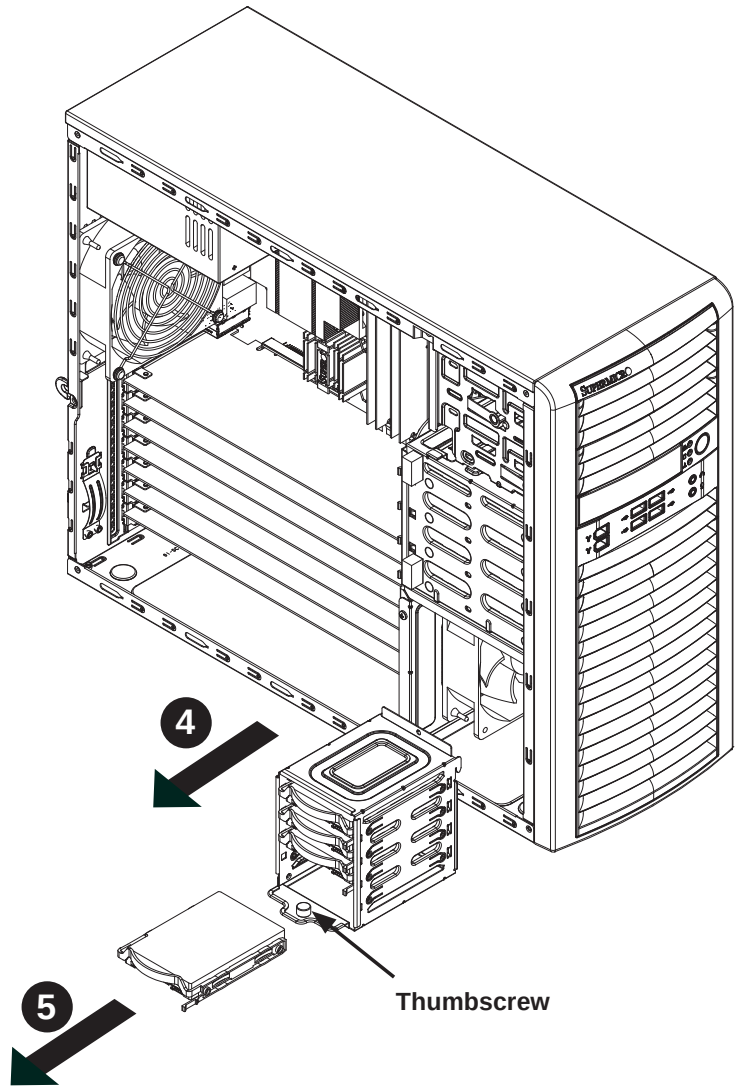
3. If desired, each hard drive carrier may be secured to the exterior of the hard drive cage using one optional screw.

4. Rotate the hard drive cage 90 degrees inward, returning it to the closed, operational position in the chassis.

5. Connect the related cables to the hard drives.

Optional 2.5" Hard Drives

Figure 3-10. Removing 2.5" Hard Drives



The 5037A-iL-MA015 must be powered-down before hard drives can be removed from the hard drive carriers.

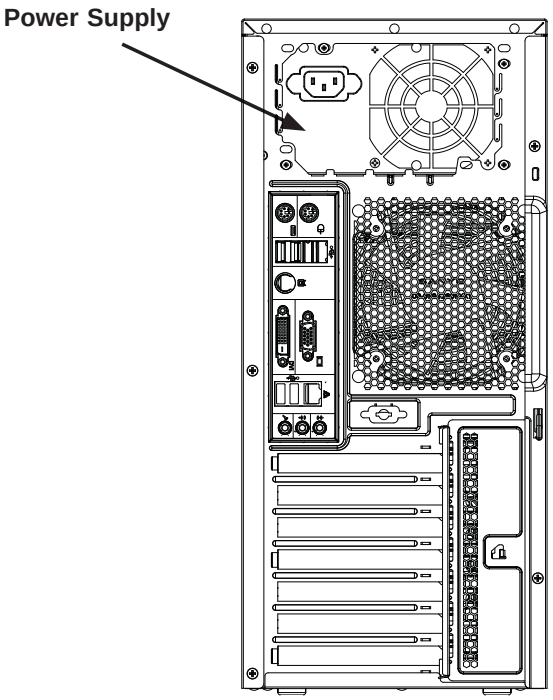
Removing and Installing 2.5" Hard Drives

1. Disconnect the chassis from any power source.
2. Loosen the thumb screw securing the 2.5" hard drive cage to the chassis.
3. Disconnect all cables from the hard drive.
4. Slide the 2.5" hard drive cage out of the chassis.

3-8 Power Supply

The 5037A-iL-MA015 includes a single 500 Watt power supply. In the unlikely event that it becomes necessary to replace the power supply, follow the instructions below.

Figure 3-11. Removing the Power Supply



Preparation

Begin by removing power from the system as described on page 3-1.

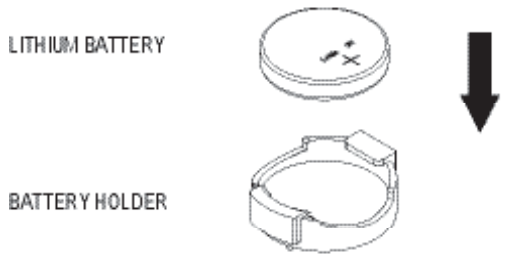
Changing the Power Supply

1. Disconnect the chassis from any power source.
2. Disconnect the motherboard cables.
3. Remove the screws securing the power supply to the chassis, which are located on the rear of the chassis. Set these screws aside for later use.
4. Gently lift the power supply out of the chassis.
5. Replace the failed power supply with an identical power supply model.
6. Secure the new power supply using the screws previously set aside.
7. Plug the AC power cord back into the module and power-up the system.

3-9 Motherboard Battery

CAUTION: There is a danger of explosion if the onboard battery is installed upside down, which will reverse its polarities (see Figure 3-12). This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032). Dispose of used batteries according to the manufacturer's instructions.

Figure 3-12. Installing the Onboard Battery



Please handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Notes

Appendix A

Software

A-1 Operating System

The 5037A-iL-MA015 supports the Windows 7 Professional 64-bit Operating System. This OS has been pre-installed to the system.

System Recovery Instructions

This computer includes a hidden partition which contains a backup of your factory Windows installation. In case of a system failure, you can use this backup to restore your computer to a working state in just a few minutes.

Since this backup resides on the same physical hard-disk as your current Windows installation, a hardware failure of the hard-disk will prevent you from reinstalling Windows. There are two different ways to initiate a system recovery of your system:

- Trigger recovery from OS level (run FullRestore.exe)
- Trigger recovery during system boot up (press F10 key).

Warning: System Recovery will wipe all of your personal data and restore the system to OOBE. You must have your CD-KEY from COA label ready before performing this action. System Recovery is an automated, one-step process. Do not initiate a system recovery unless you are prepared for a complete re-installation back to the factory default installation.

Support

If you require technical help for any Operating System problems, please contact your 3rd party software vendor or Technical Support at Supermicro. Contact information is provided in Chapter 1.

A-2 Installing Drivers

With the hardware and operating system installed, you may need to install the drivers if not done already.

The drivers are available online at http://www.supermicro.com/support/resources/

Obtaining Drivers

1. Go to the Advanced Search area and select the Category (motherboards), Product Type and Model (motherboard model) from the drop-down menus.

2. Click Submit Request.

3. The following page will display a Drivers and Utilities section. Use the drop-down menus to select the OS and device type.

4. Click Submit to get the correct driver for your system.

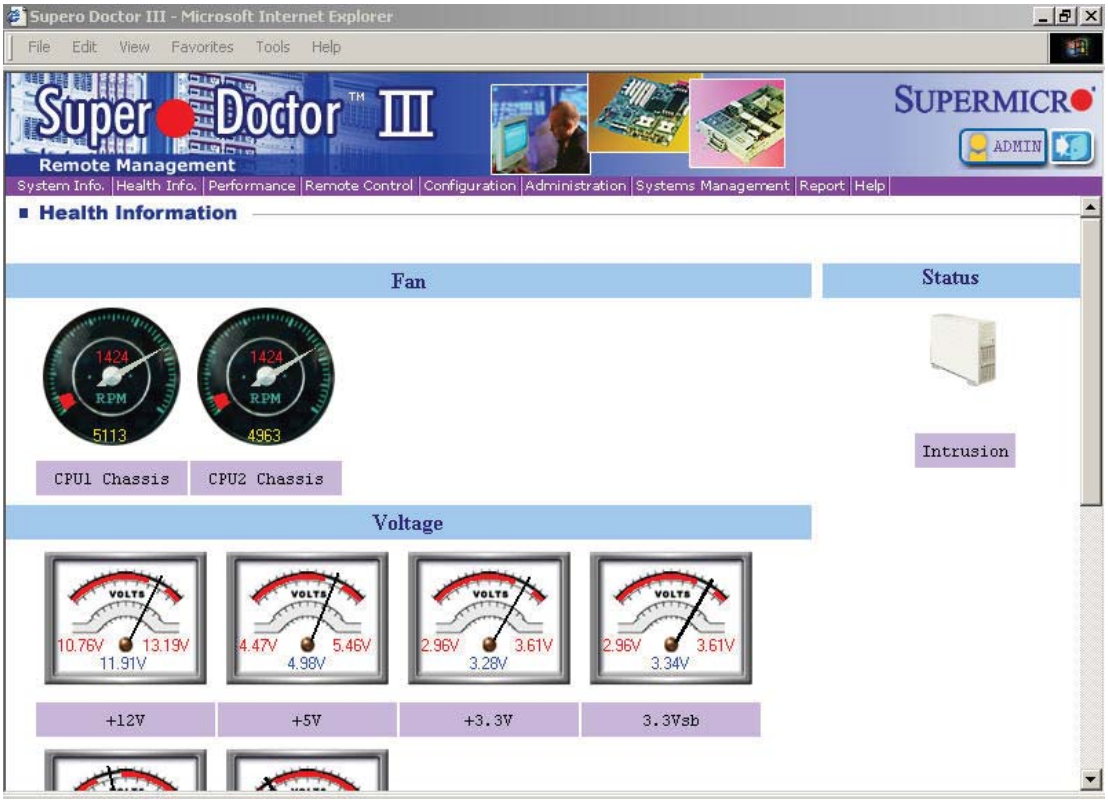
A-3 SuperDoctor III

The SuperDoctor® III program is a Web based management tool that supports remote management capability. It includes Remote and Local Management tools. The local management is called SD III Client. The SuperDoctor III program included on the CD-ROM that came with your motherboard allows you to monitor the environment and operations of your system. SuperDoctor III displays crucial system information such as CPU temperature, system voltages and fan status. See the Figure below for a display of the SuperDoctor III interface.

Note: The default User Name and Password for SuperDoctor III is ADMIN / ADMIN.

Note: When SuperDoctor is first installed, it adopts the temperature threshold settings that have been set in BIOS. Any subsequent changes to these thresholds must be made within SuperDoctor, as the SuperDoctor settings override the BIOS settings. To set the BIOS temperature threshold settings again, you would first need to uninstall SuperDoctor.

Supero Doctor III Interface Display Screen (Health Information)



Supero Doctor III Interface Display Screen (Remote Control)

Note: The SuperDoctor III program and User's Manual can be downloaded from the Supermicro Web site at http://www.supermicro.com/products/accessories/software/SuperDoctorIII.cfm.

For Linux, we recommend using SuperDoctor II.

A-4 BIOS

The AMI ROM BIOS is stored in a Flash EEPROM and can be easily updated. This chapter describes the basic navigation of the AMI BIOS Setup Utility setup screens.

Note: For instructions on BIOS recovery, please refer to the instruction guide posted at http://www.supermicro.com/support/manuals/.

Starting BIOS Setup Utility

To enter the AMI BIOS Setup Utility screens, press the <Delete> key while the system is booting up.

Note: In most cases, the <Delete> key is used to invoke the AMI BIOS setup screen. There are a few cases when other keys are used, such as <F1>, <F2>, etc.

The Main BIOS setup menu screen has two main frames. The left frame displays all the options. Grayed-out options cannot be configured. Options in blue can be

configured by the user. The right frame displays the key legend. Above the key legend is an area reserved for a description of the highlighted option. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it. (The AMI BIOS has default text messages built in. Supermicro retains the option to include, omit, or change any of these text messages.)

The AMI BIOS Setup Utility uses a key-based navigation system called "hot keys". Most of the AMI BIOS setup utility "hot keys" can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, arrow keys, etc.

How To Change the Configuration Data

The configuration data that determines the system parameters may be changed by entering the AMI BIOS Setup utility. This Setup utility can be accessed by pressing <Del> at the appropriate time during system boot.

How to Start the Setup Utility

Normally, the only visible Power-On Self-Test (POST) routine is the memory test. As the memory is being tested, press the <Delete> key to enter the main menu of the AMI BIOS Setup Utility. From the main menu, you can access the other setup screens. An AMI BIOS identification string is displayed at the left bottom corner of the screen, below the copyright message.

Important: Do not upgrade the BIOS unless your system has a BIOS-related issue. Flashing the wrong BIOS can cause irreparable damage to the system. In no event shall Supermicro be liable for direct, indirect, special, incidental, or consequential damages arising from a BIOS update. If you have to update the BIOS, do not shut down or reset the system while the BIOS is updating. This is to avoid possible boot failure.

Notes

Appendix B

BIOS Beep Codes

During the POST (Power-On Self-Test) routines, which are performed each time the system is powered on, errors may occur.

Non-fatal errors are those which, in most cases, allow the system to continue with bootup. The error messages normally appear on the screen.

Fatal errors will not allow the system to continue to bootup. If a fatal error occurs, you should consult with your system manufacturer for possible repairs.

These errors are usually communicated through a series of audible beeps. The numbers on the list correspond to the number of beeps for the corresponding error.

BIOS Beep Codes

Beep Code/LED	Message	Description
1 beep	Refresh	Circuits have been reset. (Ready to power up)
5 short beeps + 1 long beep	Memory error	No memory detected in the system
8 beeps	Display memory read/write error	Video adapter missing or with faulty memory
1 beep per device	Refresh	1 beep for each USB device
OH LED On	System OH	System Overheat

Notes

Appendix C

System Specifications

Processor

Single Intel Xeon E3-1200 V2 series, Xeon E3-1200 series, Pentium® and Celeron® processor in an LGA 1155 socket

Note: Please refer to our web site for a complete listing of supported processors.

Chipset

Intel C216

BIOS

128 Mb SPI AMI BIOS® SM Flash BIOS

Memory Capacity

Four DIMM slots support up to 32 GB of unbuffered, ECC DDR3 UDIMM memory (1600/1333 MHz)

Note: See the memory section in Chapter 5 for details.

SATA Controller

Intel on-chip controller for two SATA 3.0 ports and four SATA 2.0 ports

Drive Bays

Eight drive bays to house four 3.5" and four 2.5" optional SATA drives

Peripheral Drive Bay

Two 5.25" drive bays

Expansion Slots

Supports the use of one PCI-Express 3.0 x16, two PCI-Express 2.0 x4 (one in a x8 slot), two PCI-Express 2.0 x1 and one PCI 33MHz card

Motherboard

X9SAE

Dimensions: 12" x 9.6" (305 x 244 mm)

Chassis

SC732D4-500B Form Factor: Mid-tower
Dimensions (WxHxD) 7.6 x 16.7 x 20.68 in. (193 x 424 x 525.3 mm)

Weight

Gross (Bare Bone): 39 lbs. (17.7 kg.)

System Cooling

One 12-cm low-noise exhaust fan
One active CPU heatsink (optional)

System Input Requirements

AC Input Voltage: 100-240 VAC
Rated Input Current: 7A - 3.5A
Rated Input Frequency: 50-60 Hz

Power Supply

Rated Output Power: 500W AC 80 Plus Gold Level multi output power supply (Part# PWS-502-PQ)
Rated Output Voltages: +3.3V (15A), +5V (20A), +12V1 (17A), +12V2 (17A) +12V3 (17A)+12V4 (18A), -12V (0.5A), +5Vsb (3A)

Operating Environment

Operating Temperature: 10º to 35º C (50º to 95º F)
Non-operating Temperature: -40º to 60º C (-40º to 148º F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5 to 95% (non-condensing)

Regulatory Compliance

Electromagnetic Emissions: FCC Class B, EN 55022 Class B, EN 61000-3-2/-3-3, CISPR 22 Class B

Electromagnetic Immunity: EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)
Safety: CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)

California Best Management Practices Regulations for Perchlorate Materials:
This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. “Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate”

Notes

(continued from front)

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